



**ENVIRONMENTAL PROTECTION AGENCY**

**40 CFR Part 63**

**[EPA-HQ-OAR-2012-0522; FRL-9956-00-OAR]**

**RIN 2060-AT14**

**Phosphoric Acid Manufacturing and Phosphate Fertilizer**

**Production Risk and Technology Review**

**AGENCY:** Environmental Protection Agency (EPA).

**ACTION:** Reconsideration; proposed rule.

**SUMMARY:** This action proposes amendments to the National Emission Standards for Hazardous Air Pollutants (NESHAP) for the Phosphoric Acid Manufacturing and Phosphate Fertilizer Production source categories. The proposed amendments are in response to two petitions for reconsideration filed by industry stakeholders on the rule revisions to NESHAP for the Phosphoric Acid Manufacturing and Phosphate Fertilizer Production source categories that were promulgated on August 19, 2015 (80 FR 50386) (hereafter the "August 2015 Final Rule"). We are proposing to revise the compliance date by which affected sources must include emissions from oxidation reactors when determining compliance with the total fluoride (TF) emission limits for superphosphoric acid (SPA) process lines. We are also proposing to add a new option, and clarify an existing option, to the monitoring requirements for low-energy absorbers. In

addition, we are proposing to revise the compliance date for the monitoring requirements for low-energy absorbers.

**DATES:** Comments. Comments must be received on or before [**insert date 45 days after date of publication in the Federal Register**].

Public Hearing. If anyone contacts the EPA requesting to speak at a public hearing by [**insert date 5 days after date of publication in the Federal Register**], we will hold a public hearing on [**insert date 15 days after date of publication in the Federal Register**] on the EPA campus at 109 T.W. Alexander Drive, Research Triangle Park, North Carolina.

**ADDRESSES:** Comments. Submit your comments, identified by Docket ID No. EPA-HQ-OAR-2012-0522, at <http://www.regulations.gov>. Follow the online instructions for submitting comments. Once submitted, comments cannot be edited or removed from Regulations.gov. The EPA may publish any comment received to its public docket. Do not submit electronically any information you consider to be Confidential Business Information (CBI) or other information whose disclosure is restricted by statute. Multimedia submissions (audio, video, etc.) must be accompanied by a written comment. The written comment is considered the official comment and should include discussion of all points you wish to make. The EPA will generally not consider comments or comment contents located outside of the primary submission (i.e., on the Web, cloud, or other file sharing

system). For additional submission methods, the full EPA public comment policy, information about CBI or multimedia submissions, and general guidance on making effective comments, please visit <http://www2.epa.gov/dockets/commenting-epa-dockets>.

Instructions. Direct your comments to Docket ID No. EPA-HQ-OAR-2012-0522. The EPA's policy is that all comments received will be included in the public docket without change and may be made available online at <http://www.regulations.gov>, including any personal information provided, unless the comment includes information claimed to be CBI or other information whose disclosure is restricted by statute. Do not submit information that you consider to be CBI or otherwise protected through <http://www.regulations.gov> or email. The <http://www.regulations.gov> Web site is an "anonymous access" system, which means the EPA will not know your identity or contact information unless you provide it in the body of your comment. If you send an email comment directly to the EPA without going through <http://www.regulations.gov>, your email address will be automatically captured and included as part of the comment that is placed in the public docket and made available on the Internet. If you submit an electronic comment, the EPA recommends that you include your name and other contact information in the body of your comment and with any disk or CD-ROM you submit. If the EPA cannot read your comment due to

technical difficulties and cannot contact you for clarification, the EPA may not be able to consider your comment. Electronic files should not include special characters or any form of encryption and be free of any defects or viruses. For additional information about the EPA's public docket, visit the EPA Docket Center homepage at <http://www.epa.gov/dockets>.

Docket. The EPA has established a docket for this rulemaking under Docket ID No. EPA-HQ-OAR-2012-0522. All documents in the docket are listed in the Regulations.gov index. Although listed in the index, some information is not publicly available, e.g., CBI or other information whose disclosure is restricted by statute. Certain other material, such as copyrighted material, is not placed on the Internet and will be publicly available only in hard copy. Publicly available docket materials are available either electronically in Regulations.gov or in hard copy at the EPA Docket Center, Room 3334, EPA WJC West Building, 1301 Constitution Avenue, NW, Washington, DC. The Public Reading Room is open from 8:30 a.m. to 4:30 p.m., Monday through Friday, excluding legal holidays. The telephone number for the Public Reading Room is (202) 566-1744, and the telephone number for the EPA Docket Center is (202) 566-1742.

Public Hearing. A public hearing will be held, if requested by **[insert date 5 days after date of publication in the Federal Register]**, to accept oral comments on this proposed action. If a

hearing is requested, it will be held at the EPA's North Carolina campus located at 109 T.W. Alexander Drive, Research Triangle Park, NC 27711. The hearing, if requested, will begin at 10:00 a.m. (local time) and will continue until the earlier of 5:00 p.m. or 1 hour after the last registered speaker has spoken. To request a hearing, to register to speak at a hearing, or to inquire if a hearing will be held, please contact Ms. Pamela Garrett at (919) 541-7966 or by email at [garrett.pamela@epa.gov](mailto:garrett.pamela@epa.gov). The last day to pre-register to speak at a hearing, if one is held, will be [**insert date 13 days after date of publication in the Federal Register**]. Additionally, requests to speak will be taken the day of the hearing at the hearing registration desk, although preferences on speaking times may not be able to be fulfilled. Please note that registration requests received before the hearing will be confirmed by the EPA via email.

Please note that any updates made to any aspect of the hearing, including whether or not a hearing will be held, will be posted online at <https://www.epa.gov/stationary-sources-air-pollution/phosphate-fertilizer-production-plants-and-phosphoric-acid>. We ask that you contact Pamela Garrett at (919) 541-7966 or by email at [garrett.pamela@epa.gov](mailto:garrett.pamela@epa.gov) or monitor our Web site to determine if a hearing will be held. The EPA does not intend to publish a notice in the **Federal Register** announcing any such

updates. Please go to

<https://www3.epa.gov/ttn/atw/phosph/phosphpg.html> for more information on the public hearing.

**FOR FURTHER INFORMATION CONTACT:** For questions about this proposed action, contact Ms. Susan Fairchild, Sector Policies and Programs Division (D243-02), Office of Air Quality Planning and Standards, Environmental Protection Agency, Research Triangle Park, North Carolina 27711; telephone number: (919) 541-5167; email address: [fairchild.susan@epa.gov](mailto:fairchild.susan@epa.gov). For information about the applicability of the NESHAP or the new source performance standards to a particular entity, contact Scott Throwe, Office of Enforcement and Compliance Assurance, U.S. Environmental Protection Agency, EPA WJC South Building, Mail Code 2227A, 1200 Pennsylvania Avenue, NW, Washington DC 20460; telephone number: (202)562-7013; and email address: [throwe.scott@epa.gov](mailto:throwe.scott@epa.gov).

**SUPPLEMENTARY INFORMATION:**

Preamble Acronyms and Abbreviations. We use multiple acronyms and terms in this preamble. While this list may not be exhaustive, to ease the reading of this preamble and for reference purposes, the EPA defines the following terms and acronyms here:

CAA	Clean Air Act
CBI	Confidential business information
CFR	Code of Federal Regulations

EPA	U.S. Environmental Protection Agency
FR	Federal Register
MACT	Maximum achievable control technology
NAICS	North American Industry Classification System
NESHAP	National emission standards for hazardous air pollutants
OMB	Office of Management and Budget
PRA	Paperwork Reduction Act
RTR	Risk and technology review
SPA	Superphosphoric acid
TF	Total fluoride
TFI	The Fertilizer Institute
tpy	Tons per year
UMRA	Unfunded Mandates Reform Act

Organization of this Document. The information in this preamble is organized as follows:

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I. National Technology Transfer and Advancement Act (NTTAA)  
J. Executive Order 12898: Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations

## **I. General Information**

### A. Does this action apply to me?

Regulated Entities. Categories and entities potentially regulated by this action are shown in Table 1 of this preamble.

**Table 1. NESHAP and Industrial Source Categories Affected By This Proposed Action**

<b>NESHAP and Source Category</b>	<b>NAICS<sup>a</sup> Code</b>
Phosphoric Acid Manufacturing Phosphate Fertilizer Production	325312

<sup>a</sup> North American Industry Classification System.

Table 1 of this preamble is not intended to be exhaustive, but rather to provide a guide for readers regarding entities likely to be affected by the proposed action for the source category listed. To determine whether your facility is affected, you should examine the applicability criteria in the appropriate NESHAP. If you have any questions regarding the applicability of any aspect of this NESHAP, please contact the appropriate person listed in the preceding **FOR FURTHER INFORMATION CONTACT** section of this preamble.

### B. What action is the agency taking?



The EPA is proposing amendments to 40 CFR part 63, subpart AA and 40 CFR part 63, subpart BB in response to two petitions for reconsideration on the August 2015 Final Rule. One petition was filed by The Fertilizer Institute (TFI) and the other petition was filed by Phosphate Corporation of Saskatchewan, including: PCS Phosphate Company, Inc.; White Springs Agricultural Chemical, Inc., d/b/a PCS Phosphate-White Springs; and PCS Nitrogen Fertilizer, L.P., (collectively "PCS"). The standards for the Phosphoric Acid Manufacturing source category are found in 40 CFR part 63, subpart AA, and the standards for the Phosphate Fertilizer Production source category are found in 40 CFR part 63, subpart BB.

The petitions are available in the docket for this action (see docket items EPA-HQ-OAR-2012-0522-0084 and EPA-HQ-OAR-2012-0522-0085).

For 40 CFR part 63, subpart AA, we are proposing to:

- Revise the compliance date by which affected sources must include emissions from oxidation reactors when determining compliance with the TF emission limits for SPA process lines from August 19, 2016, to August 19, 2018.

For both 40 CFR part 63, subpart AA and 40 CFR part 63, subpart BB, we are proposing to:

- Clarify one option and include an additional option for determining the liquid-to-gas ratio of low-energy absorbers; and
- Revise the compliance date for this monitoring requirement from August 19, 2015, to August 19, 2017.

In addition to the issues above, one petitioner, PCS, requested that the EPA reconsider the TF emission limits for phosphate rock calciners. However, PCS subsequently withdrew this request and this issue is no longer part of this reconsideration.

The rationale for these proposed amendments is provided in section III of this preamble. This action is limited to the specific issues raised in the petitions for reconsideration. Therefore, we will respond only to comments addressing issues that were raised in the petitions for reconsideration. There are no changes to emission limits as a result of these proposed amendments, and we expect the proposed additional compliance time for oxidation reactors will have an insignificant effect on a phosphoric acid manufacturing plant's overall emissions. As stated in the preamble to the August 2015 Final Rule, the EPA's technology review revealed that SPA process lines at four different facilities include an oxidation reactor to remove organic impurities from the acid. Hydrogen fluoride emissions from SPA process lines including oxidation reactors account for

less than 1 percent of all hydrogen fluoride emissions from the source category. Consequently, the risk assessment in the August 2015 final risk and technology review (RTR) is unchanged by these proposed amendments.

C. Where can I get a copy of this document and other related information?

In addition to being available in the docket, an electronic copy of this action will also be available on the Internet through the Technology Transfer Network (TTN) Web site, a forum for information and technology exchange in various areas of air pollution control. Following signature by the EPA Administrator, the EPA will post a copy of this proposed action at <https://www.epa.gov/stationary-sources-air-pollution/phosphate-fertilizer-production-plants-and-phosphoric-acid>. Following publication in the **Federal Register**, the EPA will post the **Federal Register** version and key technical documents on this same Web site.

D. What is the agency's authority for taking this action?

The statutory authority for this action is provided by sections 112 and 307(d)(7)(B) of the Clean Air Act (CAA) as amended (42 U.S.C. 7412 and 7607(d)(7)(B)).

E. What are the incremental cost impacts of this action?

There are 12 facilities in the United States that manufacture phosphoric acid; two of these make only phosphoric

acid. There are 11 operating facilities that produce phosphate fertilizers; one of these makes only fertilizer. While Phosphoric Acid Manufacturing and Phosphate Fertilizer Production are two different source categories, 10 facilities manufacture both phosphoric acid and phosphate fertilizer, and are, therefore, considered to be in both source categories<sup>1</sup>.

In this action, we have revised the estimated incremental cost impacts that were presented in the August 2015 Final Rule to reflect new information provided by TFI that takes into account the installation of an additional absorber at the Agrium Nu-West facility. Agrium Nu-West's costs are in addition to those for PCS Aurora, whose absorber installation costs were included in the August 2015 Final Rule. Each of these two facilities are in both the Phosphoric Acid Manufacturing and the Phosphate Fertilizer Production source categories. Table 2 of this preamble compares the overall total capital investment (TCI) and associated total annualized cost (TAC) from the August 2015 Final Rule and the revised total costs for the proposed reconsideration. Detailed information about these revised costs are provided in section IV of this preamble.

**Table 2. Comparison of Costs to Comply with August 2015 Final Rule, as Provided in 2015 and as Revised in Proposed Reconsideration**

Cost Item	August 2015 Final Rule	2016 Proposed Reconsideration
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<sup>1</sup> These are 2014 data.

	Total Capital Investment	Total Annualized Cost	Total Capital Investment	Total Annualized Cost
Oxidation Reactor Absorber	\$270,500	\$95,300	\$541,000	\$243,400
Bag Leak Detection System	\$75,600	\$29,700	\$75,600	\$29,700
Testing	\$0	\$98,400	\$0	\$98,400
Recordkeepin g and Reporting	\$0	\$70,600	\$0	\$70,600
<b>TOTAL</b>	<b>\$346,100</b>	<b>\$294,000</b>	<b>\$616,600</b>	<b>\$442,100</b>

## II. Background

On June 10, 1999 (64 FR 31358), the EPA promulgated 40 CFR part 63, subpart AA for the Phosphoric Acid Manufacturing source category and 40 CFR part 63, subpart BB for the Phosphate Fertilizer Production source category. On August 19, 2015 (80 FR 50386), the EPA published amended rules for both of these source categories that took into consideration the technology review and residual risk review required by sections 112(d)(6) and 112(f) of the CAA, respectively. In addition to other changes, the amendments revised the SPA process line definition in 40 CFR part 63, subpart AA to include oxidation reactors and revised the monitoring provisions for low-energy absorbers in 40 CFR part 63, subpart AA and subpart BB to require monitoring of liquid-to-gas ratio rather than pressure drop. For more information on the final amendments, see 80 FR 50386.

Following promulgation of the August 2015 Final Rule, the EPA received two petitions for reconsideration. On October 15, 2015, and October 16, 2015, TFI and PCS, respectively, requested administrative reconsideration of amended 40 CFR part 63, subpart AA and subpart BB under CAA section 307(d)(7)(B).

TFI requested that the EPA reconsider: (1) the compliance schedule for requiring affected sources to include emissions from oxidation reactors when determining compliance with the TF emission limits for SPA process lines; (2) the compliance schedule for continuously monitoring the liquid-to-gas ratio for low-energy absorbers; (3) the regulatory language describing the option for using design blower capacity to determine the gas flow rate through the absorber for use in monitoring the liquid-to-gas ratio; and (4) other available options to determine the gas flow rate through the absorber for use in monitoring the liquid-to-gas ratio. PCS requested an administrative reconsideration of these same provisions, and also requested that the EPA reconsider the monitoring requirements for different types of low-energy absorbers.

We considered all the petitioners' requests, consolidated the similar issues regarding alternative monitoring options for low-energy absorbers, and grouped the issues into the following three distinct topics:

- Compliance deadlines for air oxidation reactors that are within SPA lines;
- Monitoring options for low-energy absorbers;
- Compliance deadlines for low-energy absorbers.

On December 4, 2015, the EPA granted reconsideration on all petitioners' issues pursuant to section 307(d)(7)(B) of the CAA (see docket items EPA-HQ-OAR-2012-0522-0086 and EPA-HQ-OAR-2012-0522-0087). CAA section 307(d)(7)(B) provides that the EPA shall convene a proceeding to reconsider a rule if a person raising an objection can demonstrate: (1) That it was impracticable to raise the objection during the comment period, or that the grounds for such objection arose after the comment period, but within the time specified for judicial review (i.e., within 60 days after publication of the final rulemaking notice in the **Federal Register**), and (2) that the objection is of central relevance to the outcome of the rule. We granted reconsideration on these specific issues because the grounds for petitioner's objections arose after the public comment period (but within the time specified for judicial review) and the objections are of central relevance to the outcome of the final rule pursuant to CAA section 307(d)(7)(B).

### **III. Discussion of the Issues Under Reconsideration**

A. What amendments are we proposing for oxidation reactors and what is the rationale?

In response to TFI's and PCS's requests to reconsider the compliance schedule for requiring affected sources to include emissions from oxidation reactors when determining compliance with the TF emission limits for SPA process lines, we are proposing to revise the compliance date from August 19, 2016, to August 19, 2018.<sup>2</sup> As part of their request for reconsideration, TFI stated that one facility (Agrium Nu-West) had commenced an evaluation of how best to control its oxidation reactor emissions. The petitioner stated that this evaluation could result in Agrium Nu-West deciding to install an entirely new absorber for the oxidation reactor, which would involve permitting, budgeting, design, and construction. Agrium Nu-West subsequently provided additional details about its evaluation project, stating that they needed at least another 6 months to complete the installation of ductwork to redirect the exhaust from their existing oxidation reactor to an existing absorber. Agrium Nu-West also said that it would need more time to conduct performance testing in order to determine if the existing absorber could handle the additional emissions loading. If the performance testing demonstrated that the absorber is unable to meet the existing TF limits, Agrium Nu-West said it would need

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<sup>2</sup> Refer to proposed footnote "c" of Tables 1 and 2 of 40 CFR part 63, subpart AA.



an additional 24 to 36 months to install a new absorber on its oxidation reactor. Furthermore, both petitioners (TFI, the industry trade group, and PCS, the affected company which is also represented by TFI) confirmed that PCS Aurora will need to install a new absorber to achieve compliance with the SPA process line TF emission limit. PCS Aurora stated that they would need 24 months to install a new absorber on their oxidation reactors.

Both PCS Aurora and Agrium Nu-West provided the EPA with timelines (see docket item EPA-HQ-OAR-2012-0522-0088) detailing specific permitting, budgeting, design, and construction milestones that each facility would need to reach in order to comply with the requirement to control emissions from oxidation reactors for SPA process lines. The EPA determined that these milestones are necessary, and the estimated timelines are reasonable and are consistent with the timing allowed by CAA section 112(i)(3) (i.e., no more than 3 years after promulgation). Therefore, in order to allow time for permitting, budgeting, design, and construction, the EPA is proposing an additional 2-year compliance period by which affected sources must include emissions from oxidation reactors when determining compliance with the TF emission limits for SPA process lines. This extension provides a total of 3 years from promulgation to comply with the rule. This compliance period is the maximum

amount of time that the CAA allows, and is consistent with similar rulemakings where facilities comply by installing add-on control equipment.

B. What amendments are we proposing for absorber monitoring and what is the rationale?

In today's action, we are clarifying why we are retaining the requirement to monitor the liquid-to-gas ratio for low-energy absorbers. We have determined that liquid-to-gas ratio for low-energy absorbers is the most appropriate option to ensure proper TF control. For gaseous absorbers (such as those controlling TF), increasing the scrubbing liquid flow maximizes the liquid surface area available for absorption and normally favors a higher control efficiency (see docket item EPA-HQ-OAR-2012-0522-0089). The requirement to develop the minimum liquid-to-gas ratio during a performance test establishes the minimum amount of scrubbing liquid that is necessary to absorb the TF at the level necessary to achieve the standard under the operating conditions at which the performance test was conducted. At a constant gas flow rate, increasing the scrubbing liquid flow rate may result in better TF control, but decreasing the liquid flow rate may lead to insufficient absorption and reduce the control efficiency. The liquid-to-gas ratio provides an indication of whether enough scrubbing liquid (e.g., water) is present to provide adequate TF absorption for the amount of gas

flowing through the system. As such, if the liquid-to-gas ratio is not monitored for low-energy absorbers, then sources cannot be certain an absorber is sufficiently controlling TF.

In response to TFI's and PCS's request for reconsideration of the compliance schedule for continuously monitoring the liquid-to-gas ratio for low-energy absorbers, we are proposing to revise the compliance date for existing sources to no later than August 19, 2017. We are changing the compliance date in order to allow owners and operators additional time to obtain and certify the instruments needed to monitor liquid-to-gas ratio. Until this proposed compliance date, owners and operators must continue to demonstrate compliance by monitoring the influent absorber liquid flow rate and the pressure drop through the absorber, and conform to the applicable operating limit or range established using the methodologies in 40 CFR 63.605(d)(1) and 40 CFR 63.625(d)(1).<sup>3</sup>

Additionally, in response to TFI's and PCS's request for reconsideration of the regulatory language describing the option for using design blower capacity to determine the gas flow rate through the absorber for use in monitoring the liquid-to-gas ratio, we are proposing to clarify the procedure for using measured pressure drop and "design blower capacity" to determine the gas flow rate through the absorber. Table 3 to subpart AA of

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<sup>3</sup> Refer to proposed footnote "b" of Table 3 of 40 CFR part 63, subpart AA and of Table 3 of 40 CFR part 63, subpart BB.

40 CFR part 63 currently requires owners and operators to monitor the liquid-to-gas ratio by measuring both the absorber inlet liquid flow rate, and inlet or outlet gas flow rate. However, the rule also allows owners and operators the option to use measured pressure drop and "design blower capacity" to determine the gas flow rate through the absorber in lieu of direct measurement. Although we are retaining the requirement to monitor the liquid-to-gas ratio for low-energy absorbers, we are proposing to clarify and change the term "design blower capacity" in Table 3 to subpart AA of 40 CFR part 63 and Table 3 to subpart BB of 40 CFR part 63 to "blower design capacity." We are proposing other minor text edits to these tables in order to use the phrase "gas flow rate through the absorber" more consistently. We are also proposing to insert footnote "c" into Table 3 to subpart AA of 40 CFR part 63 and Table 3 to subpart BB of 40 CFR part 63 to clarify that the option to use blower design capacity is available regardless of the location of the blower (influent or effluent), as long as the gas flow rate through the absorber can be established. The blower design capacity option allows the owner or operator to determine a maximum possible gas flow rate through the absorber based on the blower's specifications. The owner or operator can monitor the influent liquid flow rate and use the maximum possible gas flow rate through the absorber to calculate the liquid-to-gas ratio.

This option allows the owner or operator to reduce the monitoring requirements associated with the rule because the gas flow rate through the absorber is not required to be continuously monitored. However, if an owner or operator would like to have the flexibility to decrease the liquid flow rate through the absorber, the owner or operator can choose to monitor actual gas flow rate (along with liquid flow rate). As the gas flow rate decreases below the maximum possible gas flow rate, the minimum liquid flow rate required to achieve the minimum liquid-to-gas ratio also decreases.

Furthermore, the intent to allow "appropriate adjustments for pressure drop" when blower design capacity is used, is to account for the effect of pressure drop on gas flow when establishing the maximum possible gas flow rate through the absorber under actual operating conditions using manufacturer information (e.g., a performance curve). The requirement is not intended to require continuous monitoring of the blower pressure drop. Because the pressure drop of the system changes the gas flow rate delivered by the blower, adjustments for pressure drop are required in cases where gas flow rate increases. We determined that it would not be technically appropriate to specify a single method for making this adjustment, because the method would vary depending on the design configuration of an individual gas handling system. However, to provide

clarification (and to allow sources the flexibility to use best engineering judgment and calculations), we are proposing a requirement at 40 CFR 63.608(e) and 40 CFR 63.628(e) to document, in the site-specific monitoring plan, the calculations that were used to make adjustments for pressure drop if blower design capacity is used to establish the maximum possible gas flow rate through an absorber. Additional details and background on monitoring the liquid-to-gas ratio are included in the docket (see docket item EPA-HQ-OAR-2012-0522-0089 and the guidance document, "Clarification of Absorber Monitoring Requirements for National Emission Standards for Hazardous Air Pollutants (NESHAP) - Subparts AA and BB" which is also available in the docket for this action).

Also, in response to TFI's and PCS's requests for reconsideration of other available options to determine the gas flow rate through the absorber for use in monitoring the liquid-to-gas ratio, we are proposing to provide an additional option for determining the liquid-to-gas ratio. Petitioners (TFI and PCS) took issue with the fact that the EPA did not consider other options (in lieu of direct measurement or using blower design capacity) for determining gas flow rate through the absorber. We acknowledge that there are other techniques for determining gas flow rate through an absorber (e.g., use of a damper setting to document a maximum gas flow rate through the

absorber in lieu of the blower design capacity; back-calculating the gas flow rate by developing a correlation between static pressure and brake horsepower of the blower; or use of amperage of the blower as a surrogate). In particular, Mosaic Fertilizer, LLC (Mosaic) submitted to the EPA a case study (see "Mosaic Case Study (Regression Model Example)" available in the docket for this action) which simultaneously compared direct measurements of actual gas flow rate through an absorber to gas flow rates calculated using a regression model. The regression model that Mosaic used in this particular case study was developed using a design fan curve that correlates gas flow rate to static pressure (i.e., fan suction pressure) and brake horsepower of the blower. A paired t-test<sup>4</sup> of the test data used in the case study reveals that there is a statistical difference between the gas flow rates that were directly measured and the gas flow rates that were calculated using the regression model; however, the regression model predicts a higher gas flow rate than was determined through direct measurement. A higher gas flow rate would require a higher liquid flow rate in order to maintain an established influent liquid-to-gas ratio operating limit; therefore, it is reasonable to conclude that the use of the regression model developed in this case study, in lieu of direct

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<sup>4</sup> A paired t-test is a statistical tool used to compare one set of values with another set of values, by checking to see if their means are equivalent at a specified confidence level.

measurement, is a conservative method for determining gas flow rate through the absorber.

In the Regression Model Example that is available in the docket for this action, the brake horsepower of a blower is calculated by multiplying the blower amperage by the blower's voltage and efficiency (which can both be determined from the blower's motor nameplate), a power factor (which can be determined using tables that list typical power factors for various size motors), a conversion factor, and, if necessary, a constant to correct for 3-phase power. The calculated brake horsepower is then used in the regression model along with the blower static pressure (i.e., fan suction pressure) to determine gas flow rate through an absorber. As a result of our considering the Mosaic case study, we are proposing to include an option in Table 3 to subpart AA of 40 CFR part 63 and Table 3 to subpart BB of 40 CFR part 63 that allows facilities to develop and use a regression model, by way of a design fan curve that correlates gas flow rate to static pressure (i.e., fan suction pressure) and brake horsepower of a blower, to determine gas flow rate through an absorber (in lieu of direct measurement or using blower design capacity). If this option is used, we are proposing a requirement in footnote "a" of Table 4 to subpart AA of 40 CFR part 63 and Table 4 to subpart BB of 40 CFR part 63 that requires continuous monitoring of blower amperage, blower



static pressure (i.e., fan suction pressure), and any other parameters used in the regression model that are not constants.

We have not included equations that must be used in the regression model in order to allow owners and operators the flexibility to adjust this approach as necessary on a site-specific basis. As such, we are also proposing that the regression model must be developed using direct measurements of gas flow rate during a performance test, and then annually checked via performance testing in order to ensure the correlation remains current and accurate. The annual regression model verification could be conducted during, or separately from, the annual performance testing that is required in the rule. To allow the flexibility to use best engineering judgment and calculations, we are proposing an annual requirement at 40 CFR 63.608(f) and 40 CFR 63.628(f) to document, in the site-specific monitoring plan, the calculations that were used to develop the regression model and to require that the site-specific monitoring plan be updated annually to maintain accuracy and reflect data used in the annual regression model verification.

Lastly, in response to PCS's request for reconsideration of monitoring requirements for different types of low-energy absorbers, we are proposing to insert footnote "a" into Table 3 to subpart AA of 40 CFR part 63 and Table 3 to subpart BB of 40

CFR part 63 to remind affected entities that they can request an alternative monitoring method under the provisions of 40 CFR 63.8(f) on a site-specific basis. Such a request should include enough information to demonstrate the correlation between the selected operating parameter and gas flow rate through the absorber. Similarly, the petitioners also took issue that the EPA did not consider relevant design differences of low-energy absorbers such that the requirement to monitor the liquid-to-gas ratio may not be possible. In such cases, we are also proposing that the procedures at 40 CFR 63.8(f) be used to request to monitor an alternative operating parameter.

#### **IV. Summary of Cost, Environmental, and Economic Impacts**

As part of their request for reconsideration (see docket item EPA-HQ-OAR-2012-0522-0084), TFI notified the EPA that another facility (Agrium Nu-West) may also need to install an absorber in order to meet the SPA process line TF standard, when oxidation reactor emissions are included. The impacts for this other facility are in addition to those for PCS Aurora, whose absorber installation costs were included in the August 2015 Final Rule. Therefore, in this action, we are revising our estimate for overall TCI and associated TAC to comply with the August 2015 Final Rule to take into account this additional absorber. Based on this revised analysis, we anticipate an overall TCI of \$616,600, with an associated TAC of approximately

\$442,100. Similar to the August 2015 Final Rule, these compliance costs also include estimates for all existing sources to add the necessary monitoring devices, conduct performance tests, and implement recordkeeping and reporting requirements to comply with the rules.

Installing an absorber on the oxidation reactor at Agrum Nu-West will result in additional hydrogen fluoride emissions reductions of 0.047 tons per year from the oxidation reactor (i.e., a reduction from 0.049 tons per year to 0.002 tons per year(tpy)) and TF emissions reductions of 0.14 tpy from the oxidation reactor (i.e., a reduction from 0.147 tpy to 0.007 tpy). The details of the cost analyses and emissions reductions estimates are provided in the memorandum, "Control Costs and Emissions Reductions for Phosphoric Acid and Phosphate Fertilizer Production source categories - Reconsideration," which is available in the docket for this action. The economic impact associated with the revised cost estimate is an annualized control cost of about 0.01 percent of the parent company's annual revenues. The details on the economic impact analysis are provided in the memorandum, "Economic Impact Analysis for the Proposed Reconsideration of the National Emission Standards for Hazardous Air Pollutants: Phosphoric Acid Manufacturing and Phosphate Fertilizer Production source categories," which is available in the docket for this action.

This action will have no other cost, environmental, energy, or economic impacts. This action primarily revises compliance dates specific to oxidation reactors in the Phosphoric Acid Manufacturing source category, and absorber monitoring in both the Phosphoric Acid Manufacturing and Phosphate Fertilizer Production source categories. The clarifications and other revisions we are proposing in response to reconsideration are cost neutral.

## **V. Statutory and Executive Order Reviews**

Additional information about these statutes and Executive Orders can be found at <http://www2.epa.gov/laws-regulations/laws-and-executive-orders>.

### A. Executive Order 12866: Regulatory Planning and Review and Executive Order 13563: Improving Regulation and Regulatory Review

This action is not a significant regulatory action and was, therefore, not submitted to the Office of Management and Budget (OMB) for review.

### B. Paperwork Reduction Act (PRA)

This action does not impose any new information collection burden under the PRA. OMB has previously approved the information collection activities contained in the existing regulations and has assigned OMB control number 2060-0361. With this action, the EPA is seeking comments on proposed amendments

to the 40 CFR part 63, subpart AA and 40 CFR part 63, subpart BB that are mainly clarifications to existing rule language to aid in implementation issues raised by stakeholders, or are being made to allow more time for compliance. Therefore, the EPA believes that there are no changes to the information collection requirements of the August 2015 Final Rule, so that the information collection estimate of project cost and hour burden from the final rules have not been revised.

C. Regulatory Flexibility Act (RFA)

I certify that this action will not have a significant economic impact on a substantial number of small entities under the RFA. This action will not impose any requirements on small entities. This action seeks comments on proposed amendments to the 40 CFR part 63, subpart AA and 40 CFR part 63, subpart BB that are mainly clarifications to existing rule language to aid in implementation issues raised by stakeholders, or are being made to allow more time for compliance.

D. Unfunded Mandates Reform Act (UMRA)

This action does not contain any unfunded mandate as described in UMRA, 2 U.S.C. 1531-1538, and does not significantly or uniquely affect small governments. This action imposes no enforceable duty on any state, local, or tribal governments or the private sector.

E. Executive Order 13132: Federalism

This action does not have federalism implications. It will not have substantial direct effects on the states, on the relationship between the national government and the states, or on the distribution of power and responsibilities among the various levels of government.

F. Executive Order 13175: Consultation and Coordination with Indian Tribal Governments

This action does not have tribal implications, as specified in Executive Order 13175. It will not have substantial direct effects on tribal governments, on the relationship between the federal government and Indian tribes, or on the distribution of power and responsibilities between the federal government and Indian tribes, as specified in Executive Order 13175. Thus, Executive Order 13175 does not apply to this action.

G. Executive Order 13045: Protection of Children from Environmental Health Risks and Safety Risks

This action is not subject to Executive Order 13045 because it is not economically significant as defined in Executive Order 12866, and because the EPA does not believe the environmental health or safety risks addressed by this action present a disproportionate risk to children. This action seeks comments on proposed amendments to the 40 CFR part 63, subpart AA and 40 CFR part 63, subpart BB that are mainly clarifications to existing rule language to aid in implementation issues raised by

stakeholders, or are being made to allow more time for compliance. We expect the proposed additional compliance time for oxidation reactors will have an insignificant effect on a phosphoric acid manufacturing plant's overall emissions.

Hydrogen fluoride emissions from SPA process lines including oxidation reactors account for less than 1 percent of all hydrogen fluoride emissions from the source category. Therefore, the proposed amendments should not appreciably increase risk for any populations.

#### H. Executive Order 13211: Actions Concerning Regulations That Significantly Affect Energy Supply, Distribution, or Use

This action is not subject to Executive Order 13211 because it is not a significant regulatory action under Executive Order 12866.

#### I. National Technology Transfer and Advancement Act (NTTAA)

This action does not involve any new technical standards from those contained in the August 2015 Final Rule. Therefore, the EPA did not consider the use of any voluntary consensus standards.

#### J. Executive Order 12898: Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations

The EPA believes that this action does **not** have disproportionately high and adverse human health or

environmental effects on minority populations, low-income populations, and/or indigenous peoples, as specified in Executive Order 12898 (59 FR 7629, February 16, 1994).

The environmental justice finding in the August 2015 Final Rule remains relevant in this action, which seeks comments on proposed amendments to these rules that are mainly clarifications to existing rule language to aid in implementation issues raised by stakeholders, or are being made to allow more time for compliance. We expect the proposed additional compliance time for oxidation reactors will have an insignificant effect on a phosphoric acid manufacturing plant's overall emissions. Hydrogen fluoride emissions from SPA process lines including oxidation reactors account for less than 1 percent of all hydrogen fluoride emissions from the source category. Therefore, the proposed amendments should not appreciably increase risk for any populations.



**List of Subjects in 40 CFR Part 63**

Environmental protection, Administrative practice and procedure, Air pollution control, Hazardous substances, Reporting and recordkeeping requirements.

Dated: November 28, 2016.

Gina McCarthy,  
Administrator.

For the reasons stated in the preamble, the Environmental Protection Agency proposes to amend title 40, chapter I, of the Code of Federal Regulations as follows:

**PART 63—NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS  
FOR SOURCE CATEGORIES**

1. The authority citation for part 63 continues to read as follows:

**Authority:** 42 U.S.C. 7401 *et seq.*

**Subpart AA—National Emission Standards for Hazardous Air  
Pollutants from Phosphoric Acid Manufacturing Plants**

2. Section 63.608 is amended by adding paragraphs (e) and (f) to read as follows:

**§63.608 General requirements and applicability of general  
provisions of this part.**

\* \* \* \* \*

(e) If you use blower design capacity to determine the gas flow rate through the absorber for use in the liquid-to-gas ratio as specified in Table 3 to this subpart, then you must include in the site-specific monitoring plan specified in paragraph (c) of this section calculations showing how you determined the maximum possible gas flow rate through the absorber based on the blower's specifications (including any adjustments you made for pressure drop).

(f) If you use a regression model to determine the gas flow rate through the absorber for use in the liquid-to-gas ratio as specified in Table 3 to this subpart, then you must include in the site-specific monitoring plan specified in paragraph (c) of this section the calculations that were used to develop the regression model, including the calculations you use to convert amperage of the blower to brake horsepower. You must describe any constants included in the equations (e.g., efficiency, power factor), and describe how these constants were determined. If you want to change a constant in your calculation, then you must conduct a regression model verification to confirm the new value of the constant. In addition, the site-specific monitoring plan must be updated annually to reflect the data used in the annual regression model verification that is described in Table 3 to this subpart.

3. Table 1 to subpart AA of part 63 is amended by revising footnote "c" to read as follows:

**Table 1 to Subpart AA of Part 63—Existing Source Emission Limits<sup>AB</sup>**

\* \* \* \* \*

<sup>c</sup>Beginning on August 19, 2018, you must include oxidation reactors in superphosphoric acid process lines when determining compliance with the total fluorides limit.

\* \* \* \* \*

4. Table 2 to subpart AA of part 63 is amended by revising footnote "c" to read as follows:

**Table 2 to Subpart AA of Part 63—New Source Emission Limits<sup>AB</sup>**

\* \* \* \*

<sup>c</sup>Beginning on August 19, 2018, you must include oxidation reactors in superphosphoric acid process lines when determining compliance with the total fluorides limit.

5. Table 3 to subpart AA of part 63 is amended by:

a. Revising the column headings "And you must monitor..." and

"And..."by including a reference to footnote a;

b. Revising the entry "Install CPMS for liquid and gas flow at the inlet of the absorber"; and

c. Adding footnotes "a" through "d" to read as follows:

**Table 3 to Subpart AA of Part 63—Monitoring Equipment Operating Parameters**

<b>You must ...</b>	<b>If ...</b>	<b>And you must monitor ...<sup>a</sup></b>	<b>And ...<sup>a</sup></b>
* * *	* * *		
Install CPMS for liquid and gas flow at the inlet of the absorber <sup>b</sup>	<p>Your absorber is designed and operated with pressure drops of 5 inches of water column or less; or</p> <p>Your absorber is designed and operated with pressure drops of 5 inches of water column or more, and you choose to monitor the liquid-to-gas ratio, rather than only the influent liquid flow, and you want the ability to lower liquid flow with changes in gas flow</p>	Liquid-to-gas ratio as determined by dividing the influent liquid flow rate by the gas flow rate through the absorber. The units of measure must be consistent with those used to calculate this ratio during the performance test	<p>You must determine the gas flow rate through the absorber by:</p> <p>Measuring the gas flow rate at the absorber inlet or outlet;</p> <p>Using the blower design capacity, with appropriate adjustments for pressure drop;<sup>c</sup> or</p> <p>Using a regression model.<sup>d</sup></p>
* * *	* * *		

<sup>a</sup>To monitor an operating parameter that is not specified in this table (including process-specific techniques not specified in this table to determine gas flow rate through an absorber), you must request, on a site-specific basis, an alternative monitoring method under the provisions of 40 CFR 63.8(f).

<sup>b</sup>For existing sources, if your absorber is designed and operated with pressure drops of 5 inches of water column or less, the compliance date is August 19, 2017. In the interim, for existing sources with an absorber designed and operated with pressure drops of 5 inches of water column or less, you must install CPMS for pressure at the gas stream inlet and outlet of the absorber, and monitor pressure drop through the absorber.

<sup>c</sup>If you select this option, then you must comply with §63.608(e). The option to use blower design capacity is intended to establish the maximum possible gas flow through the absorber; and is available regardless of the location of the blower (influent or effluent), as long as the gas flow rate through the absorber can be established.

<sup>d</sup>If you select this option, then you must comply with §63.608(f). The regression model must be developed using direct measurements of gas flow rate during a performance test, and design fan curves that correlate gas flow rate to static pressure (i.e., fan suction pressure) and brake horsepower of the blower. You must conduct an annual regression model verification using direct measurements of gas flow rate during a performance test to ensure the correlation remains accurate. The annual regression model verification may be conducted during, or separately from, the annual performance testing that is required in §63.606(b).

6. Table 4 to subpart AA of part 63 is amended by revising the entry "Influent liquid flow rate and gas stream flow rate" to read as follows:

**Table 4 to Subpart AA of Part 63—Operating Parameters, Operating Limits and Data Monitoring, Recordkeeping and Compliance Frequencies**

For the operating parameter applicable to you, as specified in Table 3 ...	You must establish the following operating limit ...	And you must monitor, record, and demonstrate continuous compliance using these minimum frequencies ...		
		Data measurement	Data recording	Data averaging period for compliance
* * *	* * *	*		
Influent liquid flow rate and gas stream flow rate	Minimum influent liquid-to-gas ratio <sup>a</sup>	Continuous	Every 15 minutes	Daily.
* * *	* * *	*		

<sup>a</sup>If you select the regression model option to monitor influent liquid-to-gas ratio as described in Table 3 to this subpart, then you must also continuously monitor (i.e., record every 15 minutes, and use a daily averaging period) blower amperage, blower static pressure (i.e., fan suction pressure), and any other parameters used in the regression model that are not a constant.

## **Subpart BB—National Emission Standards for Hazardous Air**

### **Pollutants from Phosphate Fertilizers Production Plants**

7. Section 63.628 is amended by adding paragraphs (e) and (f) to read as follows:

#### **§63.628 General requirements and applicability of general provisions of this part.**

(e) If you use blower design capacity to determine the gas flow rate through the absorber for use in the liquid-to-gas ratio as specified in Table 3 to this subpart, then you must include in the site-specific monitoring plan specified in paragraph (c) of this section calculations showing how you determined the maximum possible gas flow rate through the absorber based on the blower's specifications (including any adjustments you made for pressure drop).

(f) If you use a regression model to determine the gas flow rate through the absorber for use in the liquid-to-gas ratio as specified in Table 3 to this subpart, then you must include in the site-specific monitoring plan specified in paragraph (c) of this section the calculations that were used to develop the regression model, including the calculations you use to convert

amperage of the blower to brake horsepower. You must describe any constants included in the equations (e.g., efficiency, power factor), and describe how these constants were determined. If you want to change a constant in your calculation, then you must conduct a regression model verification to confirm the new value of the constant. In addition, the site-specific monitoring plan must be updated annually to reflect the data used in the annual regression model verification that is described in Table 3 to this subpart.

8. Table 3 to subpart BB of part 63 is amended by:

a. Revising the column headings "And you must monitor..." and "And..." by including a reference to footnote a;

b. Revising the entry "Install CPMS for liquid and gas flow at the inlet of the absorber"; and

c. Adding footnotes "a" through "d" to read as follows:

**Table 3 to Subpart BB of Part 63—Monitoring Equipment Operating Parameters**

You must...			If...				And you must monitor... <sup>a</sup>	And... <sup>a</sup>
*	*	*	*	*	*	*		

<b>You must...</b>	<b>If...</b>	<b>And you must monitor...<sup>a</sup></b>	<b>And...<sup>a</sup></b>
★ ★ ★	★ ★ ★ ★		
Install CPMS for liquid and gas flow at the inlet of the absorber <sup>b</sup>	<p>Your absorber is designed and operated with pressure drops of 5 inches of water column or less; or</p> <p>Your absorber is designed and operated with pressure drops of 5 inches of water column or more, and you choose to monitor the liquid-to-gas ratio, rather than only the influent liquid flow, and you want the ability to lower liquid flow with changes in gas flow</p>	Liquid-to-gas ratio as determined by dividing the influent liquid flow rate by the gas flow rate through the absorber. The units of measure must be consistent with those used to calculate this ratio during the performance test	<p>You must determine the gas flow rate through the absorber by:</p> <p>Measuring the gas flow rate at the absorber inlet or outlet;</p> <p>Using the blower design capacity, with appropriate adjustments for pressure drop;<sup>c</sup> or</p> <p>Using a regression model.<sup>d</sup></p>
★ ★ ★	★ ★ ★ ★		

<sup>a</sup>To monitor an operating parameter that is not specified in this table (including process-specific techniques not specified in this table to determine gas flow rate through an absorber), you must request, on a site-specific basis, an alternative monitoring method under the provisions of 40 CFR 63.8(f).

<sup>b</sup>For existing sources, if your absorber is designed and operated with pressure drops of 5 inches of water column or less, the compliance date is August 19, 2017. In the interim, for existing sources with an absorber designed and operated with pressure drops of 5 inches of water column or less, you must install CPMS for pressure at the gas stream inlet and outlet of the absorber, and monitor pressure drop through the absorber.

<sup>c</sup>If you select this option, then you must comply with §63.628(e). The option to use blower design capacity is intended to establish the maximum possible gas flow through the absorber; and is available regardless of the location of the blower (influent or effluent), as long as the gas flow rate through the absorber can be established.

<sup>d</sup>If you select this option, then you must comply with §63.628(f). The regression model must be developed using direct measurements of gas flow rate during a performance test, and design fan curves that correlate gas flow rate to static pressure (i.e., fan suction pressure) and brake horsepower of the blower. You must conduct an annual regression model verification using direct measurements of gas flow rate during a performance test to ensure the correlation remains accurate. The annual regression model verification may be conducted during, or separately from, the annual performance testing that is required in §63.626(b).



9. Table 4 to subpart BB of part 63 is amended by revising the column headings and entry for "Influent liquid flow rate and gas stream flow rate" to read as follows:

**Table 4 to Subpart BB of Part 63—Operating Parameters, Operating Limits and Data Monitoring, Recordkeeping and Compliance Frequencies**

For the operating parameter applicable to you, as specified in Table 3 ...	You must establish the following operating limit during your performance test ...	And you must monitor, record, and demonstrate continuous compliance using these minimum frequencies ...		
		Data measurement	Data recording	Data averaging period for compliance
* * *	* * *	*		
Influent liquid flow rate and gas stream flow rate	Minimum influent liquid-to-gas ratio <sup>a</sup>	Continuous	Every 15 minutes	Daily.
* * *	* * *	*		

<sup>a</sup>If you select the regression model option to monitor influent liquid-to-gas ratio as described in Table 3 to this subpart, then you must also continuously monitor (i.e., record every 15 minutes, and use a daily averaging period) blower amperage, blower static pressure (i.e., fan suction pressure), and any other parameters used in the regression model that are not a constant.

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